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DUE DATE

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WILKINSON, R.B.  
WILSON, J.M.

Bower JXX  
Greene MXX  
Johnson mXX



Department of Energy

ROCKY FLATS OFFICE  
P.O. BOX 928  
GOLDEN, COLORADO 80402-0928

SEP 24 1993

93-DOE-10638

Frederick R. Dowsett, Ph.D.  
Colorado Department of Health  
Hazardous Materials and Waste Management Division  
HMWMD-HWC-B2  
4300 Cherry Creek Drive South  
Denver, Colorado 80601

Dear Dr. Dowsett:

Enclosed is the Resource Conservation and Recovery Act (RCRA) Contingency Plan Implementation Report No. 93-008 which outlines the events and response actions associated with leaks of hazardous waste from two RCRA tank systems. The total quantity of all material released was less than one teaspoon. Because of radiological concerns, the residue from the first leak was not cleaned up within 24 hours of discovery. The hazardous waste leaked from organic waste transfer lines in Building 776, Room 141. These lines are ancillary equipment associated with RCRA tank systems that have been drained, are not in service, and are scheduled for closure pending the Colorado Department of Health approval of the Rocky Flats Plant Building 777 Tank Systems RCRA Interim Status Closure Plan. These systems are being managed under the Mixed Residue Tank Systems Management Plan.

If you have any questions regarding this subject, please contact me at 966-4561 or Dave Grosek at 966-3305.

Sincerely,

*Tom Lukow*

Thomas E. Lukow, Director  
Waste Programs Division

Enclosures

cc w/Enclosures:  
D. Maxwell, EPA  
B. Brainard-Jordan, OC, RFO  
T. Lukow, WPD, RFO  
D. Grosek, EMB, RFO  
W. Seyfert, EMB, RFO  
T. Hedahl, EG&G  
J. Bower, EG&G  
M. Greene, EG&G  
M. Johnson, EG&G  
A. Schubert, EG&G

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PATS/130G

Adm Rec. 5400

Reviewed for Addressee  
Corres. Control RFP

9-27-93 C  
DATE BY

Ref Ltr. #

DOE ORDER # 5400

ADMIN RECORD

A-DU09-000403

SEP 27 9 47 AM '93  
EG&G  
ROCKY FLATS PLANT  
CORRESPONDENCE SECTION



# EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

September 23, 1993

93-RF-11753

A. H. Pauole  
Acting Manager  
DOE, RFO

Attn: D. Grosek

UPDATED RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)  
CONTINGENCY PLAN IMPLEMENTATION REPORT (CPIR) NO. 93-008 - TGH-552-93

Enclosed is a draft letter to the Colorado Department of Health (CDH) to transmit the updated RCRA CPIR No. 93-008, also enclosed. The report was updated to include additional information obtained during a detailed field verification of the system to determine the repair requirements. The report outlines the events and response actions associated with leaks of hazardous waste from two RCRA tank systems. The total quantity of all material released was less than one teaspoon. The residue from the first leak was not cleaned up within 24 hours of discovery. The hazardous waste leaked from organic waste transfer lines in Building 776, Room 141. These lines are ancillary equipment associated with RCRA tank systems that have been drained, are not in service, and are scheduled for closure pending the CDH approval of the Rocky Flats Plant Building 777 Tank Systems RCRA Interim Status Closure Plan. These systems are being managed under the Mixed Residue Tank Systems Management Plan.

CDH was notified of the incident on September 15, 1993, at 2:06 p.m. The Environmental Protection Agency, Region VIII (EPA) was notified by facsimile on September 15, 1993. This report should be delivered to CDH no later than September 25, 1993, as required by 6 CCR 1007-3, Section 265.56(j).

If you have any questions regarding this subject, please contact either M. R. Greene at extension 7821 or M. L. Johnson at extension 5033.

  
T. G. Hedahl, Associate General Manager  
Environmental and Waste Management

MLJ:kam

Orig. and 1 cc - A. H. Pauole

Enclosures:  
As Stated (2)

RCRA CONTINGENCY PLAN  
IMPLEMENTATION REPORT NO. 93-008  
ROCKY FLATS PLANT  
EPA ID NUMBER CO7890010526

This report is made in compliance with the requirements of 6 CCR 1007-3, Parts 264.56 (j) and 265.56 (j) for a written report within 15 days of the implementation of the RCRA Contingency Plan. The requirements for this are given below and will be addressed in the order listed, excerpted from 6 CCR 1007-3, Parts 264.56 and 265.56:

"(j)...Within 15 days after the incident, he must submit a written report on the incident to the department. The report must include:

- (1) Name, address, and telephone number of the owner or operator
- (2) Name, address, and telephone number of the facility
- (3) Date, time, and type of incident (fire, explosion)
- (4) Name and quantity of material(s) involved
- (5) The extent of injuries, if any
- (6) An assessment of actual or potential hazards to human health and the environment, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material resulted from the incident."

---

(1) **NAME, ADDRESS AND TELEPHONE NUMBER OF THE OWNER OF THE FACILITY:**

United States Department of Energy  
Rocky Flats Plant  
Post Office Box 928  
Golden, Colorado 80402  
(303) 966-2025

Facility Contact:  
A. H. Pauole, Acting Manager

(2) **NAME, ADDRESS AND TELEPHONE NUMBER OF THE FACILITY:**

U.S. Department of Energy  
Rock Flats Plant  
Post Office Box 928  
Golden, Colorado 80402  
(303) 966-2025

September 23, 1993

(3) **DATE, TIME, AND TYPE OF INCIDENT:**

**A. Summary:**

Evidence of a release of radioactively contaminated material was discovered on September 10, 1993. Another release of radioactively contaminated material was discovered on September 13, 1993, and at this time it was confirmed that the release contained hazardous waste from a RCRA tank system. All of the released material (a total quantity of less than one teaspoon) was cleaned up on September 13, 1993. There was no detectable release to the environment. The RCRA Contingency Plan was implemented because the residue from the first leak of hazardous waste from a RCRA tank system was not cleaned up within 24 hours of discovery. During a detailed field verification to determine the repair requirements on September 22, it was determined that the two leaks were from two different hazardous waste piping systems.

**B. System Description:**

The first leak originated from a waste 1,1,1-trichloroethane (TCA) transfer line associated with tanks T-1 and T-2 (receiving and shipping tanks, respectively). These tanks were used to collect and transfer waste solutions containing TCA used in degreasing operations located in gloveboxes in various rooms in Building 777. In addition, spent TCA waste collected in tank V-100 in Building 707, Module C (pit) is transferred to tank T-1 (the receiving tank). The T-1 and T-2 tanks are located in the north central area of Room 430 in Building 777. Both tanks are filled with rashig rings to prevent a criticality. The solution collected in Tank T-1 is filtered in Glovebox No. FL-1, located next to the tanks, and then collected and sampled in Tank T-2 before the waste is transferred to Building 774 for treatment. A process flow diagram of this system is shown in Figure 1.

The second leak originated from a waste machine coolant/used oil transfer line. This transfer line was used to collect liquids from the following tanks:

- 1) DL-776, T-A1, T-A2, T-1103, T-1104, T-1106 which are located in Room 131, Building 777;
- 2) T-3 and T-4 which are located in Room 430, Building 777;
- 3) T-5, T-6, T-7, T-8 T-9, T-10, T-11, and T-12 which are located in Room 134A (east), Building 777; and
- 4) Press operations in Room 161, Building 776.

These tanks are used to collect waste oil solution and/or waste Carbon Tetrachloride. Each tank system collects waste solution from various machining and press operations. Each tank system is filtered and sampled through a specific glovebox prior to transfer to Building 774 for treatment. A more detailed description for each of the tank systems is included in the Building 777 Tank Systems Interim Status Closure Plan. A process flow diagram of the waste machine coolant/used oil tank system is shown in Figure 2. A schematic of the organic waste transfer lines that leaked is shown in Figure 3.

**C. Operational Status:**

The waste TCA and waste machine coolant/used oil tank systems are classified as a Category "C" Mixed Residue Tank System in the Mixed Residue Tank System Management Plan submitted to CDH for approval. The tank systems, including the transfer piping, are currently out of service and have been operationally drained (i.e., the systems were drained with existing pumps; however, liquid still remains in part of the systems). These tank systems are destined for closure and have been included in the Building 777 Tank Systems RCRA Interim Status Closure Plan submitted to CDH for approval. The ancillary equipment associated with these

transfer systems probably contains liquid because some of the piping is located in the overhead with several different elevation changes. Only those sections downstream of the high point would have gravity drained to Building 774.

#### **D. Description of Incident and Immediate Response:**

Radioactively contaminated hazardous waste leaked from two organic waste transfer lines located in the overhead of Room 141 in Building 776. The first leak occurred prior to 9:00 p.m., September 10, 1993. The second leak occurred sometime during the morning of September 13. The first leak resulted in a release of two to four drops (combined area less than two centimeters in diameter) reaching the floor. The second leak resulted in a release of one drop (less than one centimeter in diameter) reaching the floor. The following is a chronological description of the events associated with the discovery and cleanup of these leaks.

Radioactive contamination (one million disintegrations per minute) was discovered on the floor at approximately 9:00 p.m. on September 10, by a Radiological Protection Technician (RPT) during a daily routine Contamination Control tour of Buildings 776 and 777. Due to other possible sources of radioactive contamination, the release was not immediately determined to be a release from a hazardous waste tank system. The room was posted as requiring "Anti-C" clothing and a Radiological Work Permit (RWP) as a result of the radioactive contamination. At approximately 8:30 a.m. on September 11, 1993, Building 776 personnel performed a cursory inspection of the room from the door way to determine the source of the leak. The cursory inspection of the room did not identify the source of the leak being from a hazardous waste tank system. Due to limited visibility of piping in the overhead, personnel initially identified what appeared to be a valve assembly on an air line as the most likely source of the release. The ceiling of the room and the pipes are all painted white, making the identification difficult without a good visual vantage point from within the room.

During the morning of September 11, a wet Kimwipe™ was placed on the floor to prevent the contamination from becoming airborne. In addition, the two sets of flanges with blinds (originally identified as a valve assembly on an air line) were cleaned and wrapped with plastic to prevent the spread of further radioactive contamination. Based on the color of the released material (dark green versus the normal color of dark brown to black of spent TCA), the material was initially identified as contaminated grease from the suspect air line and not liquid hazardous waste. At the time of the incident, personnel involved in identifying the source of the leak were not aware of hazardous waste lines that are located in the overhead of Room 141. Due to a scheduled shutdown of the steam plant during the weekend, hot water was not readily available to decontaminate personnel or equipment; therefore, a decision was made to complete the radioactive decontamination effort on Monday, September 13, 1993.

During the morning of September 13, 1993, the radioactive decontamination effort of the floor was completed. At approximately 12:30 p.m. on September 13, 1993, another drop (less than one centimeter in diameter) of radioactive contamination was observed on the floor of Room 141. Prior to leaving the room, personnel also identified a small quantity of material hanging from an elbow on the TCA waste transfer line that is located approximately 4 to 6 feet above the suspect air line. The quantity of material hanging appeared to be approximately a 1/2" long string of material. A second decontamination effort, including removal of the material hanging from the pipe, was completed at approximately 5:40 p.m. on September 13, 1993. The cause of the leak on the waste TCA transfer line appeared to be corrosion resulting in a pinhole at the weld joint on a stainless steel elbow. On September 22, during the field verification to determine the repair requirements, it was determined that the first leak originated from a waste machine coolant/oil transfer line and not from an air line. The source of the leak is a flanged connection which had

been cleaned and wrapped with plastic on September 11 to prevent the spread of further radioactive contamination.

**E. Corrective Action:**

Prior to the incident, the tank systems had been operationally drained and feed lines had been locked and tagged out of service; therefore, the systems are in compliance with the requirement to cease use as listed in 6 CCR 1007-3, Part 265.196 (a).

Per the requirements of 6 CCR 1007-3, Part 265.196 (b)(1), a work package is currently being prepared to drain and repair the organic waste transfer lines in Room 141. As an interim measure, the leaking elbow and flanged connection were wrapped in plastic and taped to prevent any further release of hazardous waste or radioactive contamination. The elbow and flanged connection will be inspected daily and any visible liquid accumulation will be removed within 24 hours of discovery.

Per the requirements of 6 CCR 1007-3, Part 265.196 (b)(2), the hazardous waste released (less than one teaspoon) from primary containment was removed from the piping and the epoxy coated floor. The material from the first leak was not removed within 24 hours due to the lack of hot water for decontamination of personnel and equipment. The material from the second leak was removed within 24 hours of discovery.

The containment of a visible release to the environment and the notification requirements outlined 6 CCR 1007-3, Part 265.196 (c) and (d) are not applicable to this incident because there was no release to the environment.

**(4) NAME AND QUANTITY OF MATERIAL INVOLVED:**

The leaks consisted of less than one teaspoon of radioactively contaminated hazardous waste from the ancillary transfer piping associated with the waste TCA and waste machine coolant/used oil tank systems. The waste TCA tank system has been assigned EPA Waste Codes D006, D007, D008, F001, and F002. The waste machine coolant/used oil tank system has been assigned EPA Waste Codes D006, D007, D008, D019, F001, and F002. The waste characterization of the tank systems' contents is based on process knowledge as documented in the Rocky Flats Plant Building 777 Tank Systems RCRA Interim Status Closure Plan.

**(5) EXTENT OF INJURIES:**

No injuries occurred.

**(6) THREAT TO HUMAN HEALTH OR THE ENVIRONMENT:**

The material released was contained in Room 141 of Building 776. There was no detectable release to the environment or exposure to personnel. All cleanup activities were conducted under the guidance of an RPT to prevent contamination or injury to personnel.

**(7) ESTIMATE THE QUANTITY AND DISPOSITION OF RECOVERED MATERIAL THAT RESULTED FROM THE INCIDENT:**

The leak/release consisted of less than one teaspoon of waste that was cleaned up with Kimwipes™ which were disposed of in an interim status storage area, Unit 11, in Room 134, Building 776. The EPA codes assigned to the cleanup material are F001 and F002.

Post-It™ brand fax transmittal memo 7671		# of pages > 1
To	Linda Williams	From K.A. Martin
Co.	Ca 938F1753	
Dept.	5746	
Fax #	8704	5001

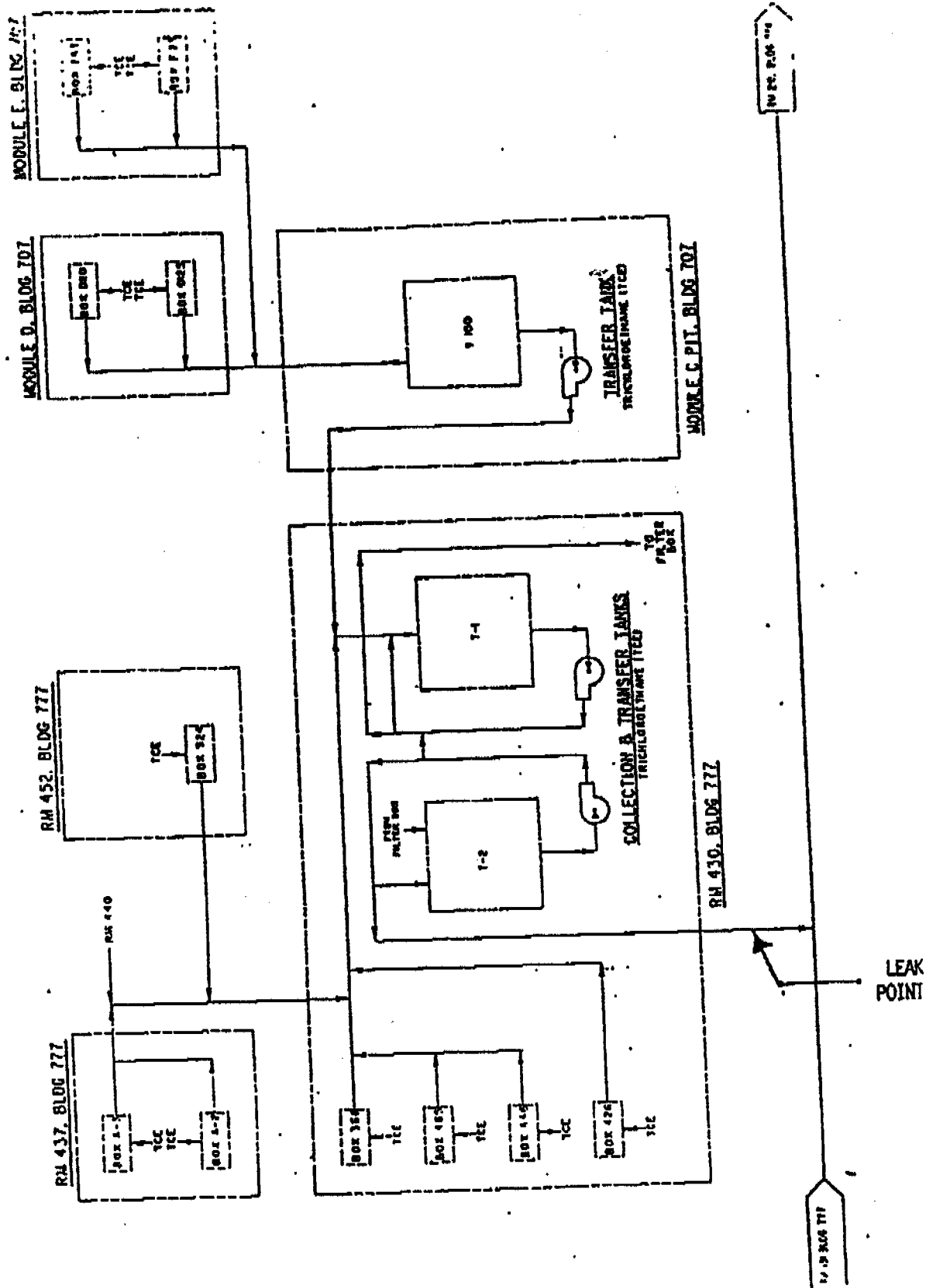


FIGURE 1  
PROCESS FLOW DIAGRAM  
WASTE TCA TANK SYSTEM

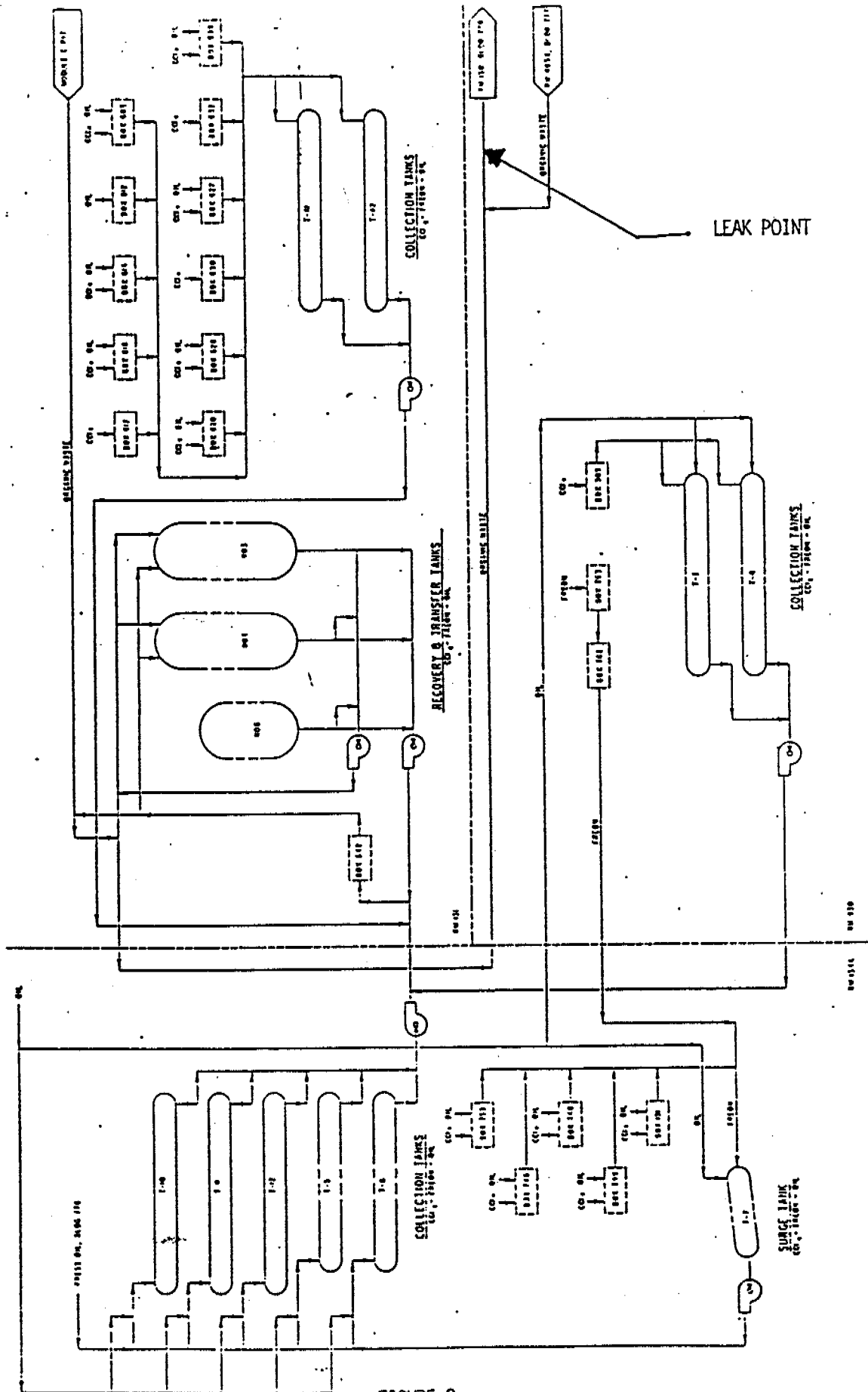
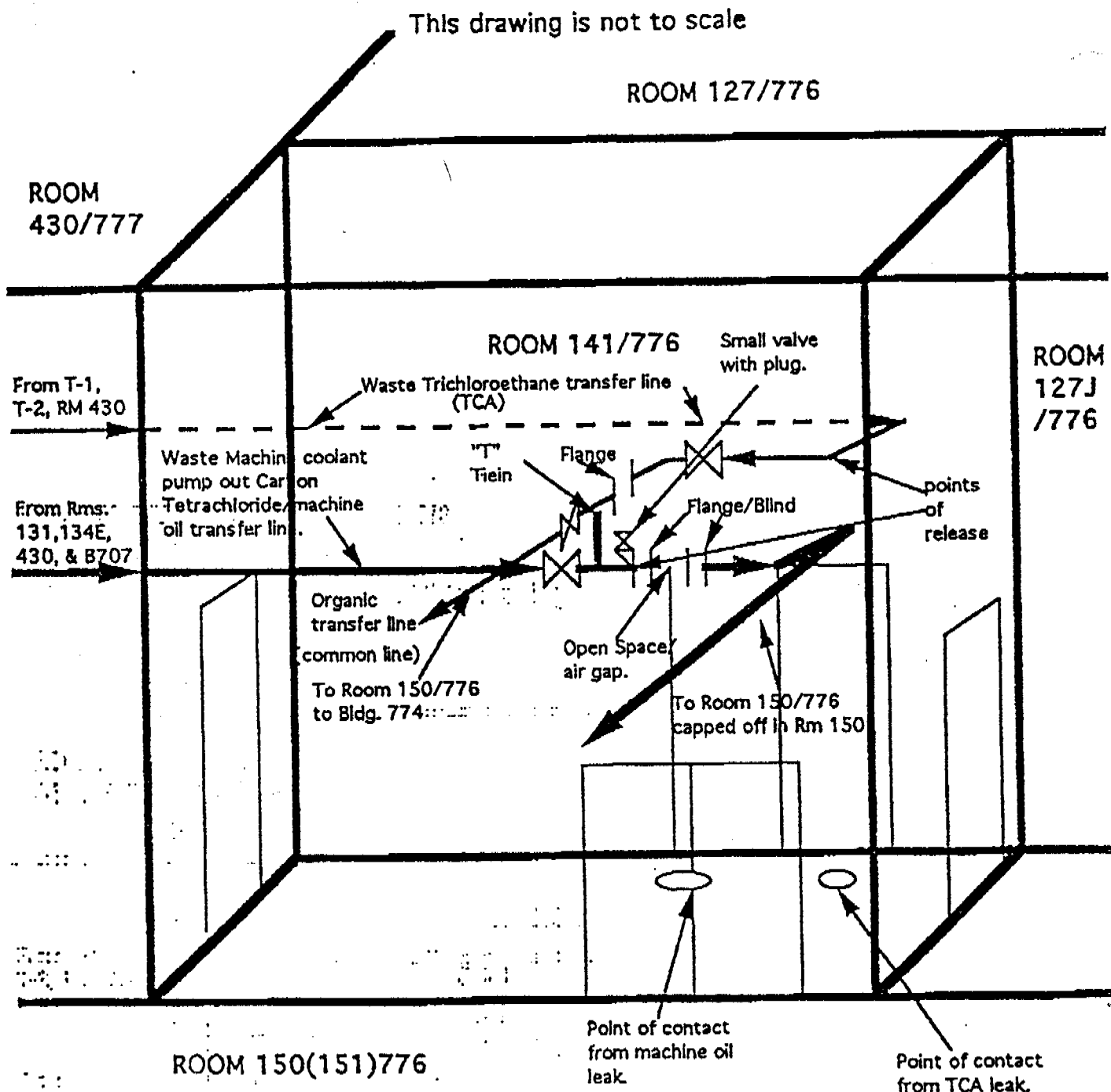


FIGURE 2  
PROCESS FLOW DIAGRAM  
WASTE MACHINE COOLANT/USED OIL TANK SYSTEM



This drawing is not to scale



Portion of TCA transfer line behind Room 141 wall in Room 127

Waste Trichloroethane transfer line

Waste Machine Coolant, used oil, and Carbon Tetrachloride transfer line.

This drawing was done by visual inspection of the room and the piping scheme. There were not measurements taken to precisely plot piping or release contact points. No specific scale was used to develop this drawing.

FIGURE 3  
SCHEMATIC OF LEAK POINT  
PAGE 7 OF 7

DRAFT

DRAFT

DRAFT

Colorado Department of Health  
Hazardous Materials and Waste Management Division  
HMWMD-HWC-B2/Frederick R. Dowsett, PhD.  
4300 Cherry Creek Drive South  
Denver, Colorado 80601

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CONTINGENCY PLAN  
IMPLEMENTATION REPORT (CPIR) NO. 93-008

Enclosed is RCRA CPIR No. 93-008 which outlines the events and response actions associated with leaks of hazardous waste from two RCRA tank systems. The total quantity of all material released was less than one teaspoon. The residue from the first leak was not cleaned up within 24 hours of discovery. The hazardous waste leaked from organic waste transfer lines in Building 776, Room 141. These lines are ancillary equipment associated with RCRA tank systems that have been drained, are not in service, and are scheduled for closure pending the Colorado Department of Health approval of the Rocky Flats Plant Building 777 Tank Systems RCRA Interim Status Closure Plan. These systems are being managed under the Mixed Residue Tank Systems Management Plan.

Enclosure:  
As Stated

cc:  
D. M. Maxwell - EPA, Region VIII  
B. Brainard - DOE, RFO  
D. Grosek - " "  
T. E. Lukow - " "  
W. E. Seyfert - " "  
J. M. Bower - EG&G Rocky Flats, Inc.  
M. R. Greene - " " " "  
T. G. Hedahl - " " " "  
M. L. Johnson - " " " "  
A. L. Schubert - " " " "